

What is claimed is:

Sub 3 > 1. A check valve comprising:

a valve plate having an inlet hole that draws in a low pressure fluid by an open-and-shut operation driven by a piston movement, and a discharging hole that discharges a high pressure fluid through an open-close operation; and

a check valve shaped in a helical plate spring structure coupled with the inlet hole and discharging hole of the valve plate.

2. The check valve of claim 1, wherein a flow of the fluid is blocked or allowed to flow smoothly by pressure differences in the check valve.

3. The check valve of claim 1, wherein the check valve is coupled with supporting plates which have an inlet member or a discharging member.

4. The check valve of claim 1, wherein the check valve is structured in a stair shape of which the width becomes narrower as (going up to upper part from below part).

distance from the hole increases

5. The check valve of claim 4, wherein each floor of the check valve is opened by a pressure of an outside fluid that has been generated by the piston movement.

6. The check valve of claim 1, wherein the fluid is a refrigerant.

7. The check valve of claim 1, further comprising a head cover, which is formed with a flow channel where the fluid draws in and discharge from, for sealing the valve plate in order to prevent a leakage of the fluid.

8. A check valve shaped in helical plate spring shape to prevent a flow of the fluid when the fluid flows in one direction by maintaining a pressured state as the parts of the check valve overlaps, and in case the fluid flows in the other direction, the valve is stretched out to promote the fluid to flow in.

9. The check valve of claim 8, wherein helix shape of the helical plate spring check valve is at least one of circular helix shape, triangular helix shape and rectangular helix shape.

10. A check valve comprising:

a valve plate having an inlet hole which draws in a low pressure fluid by an open-and-shut operation driven by a piston movement and a discharging hole through that discharges a high pressure fluid by an open-and-shut operation;

a check valve shaped in a helical plate spring structure coupled with the inlet hole and discharging hole of the valve plate; and

a head cover, which is formed with a flow channel where the fluid draws in and discharge from, for sealing the valve plate in order to prevent a leakage of the fluid.